Barstow Marine Corps Logistics Base NPL

Size: 5,688 acres
Mission: Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations
HRS Score: 37.93; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in October 1990
Contaminants: Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, and VOCs
Media Affected: Groundwater and soil
Funding to Date: $77.2 million
Estimated Cost to Completion (Completion Year): $63.7 million (FY2029)
Final Remedy in Place or Response Complete Date for All Sites: FY2010

Barstow, California

Restoration Background

Barstow Marine Corps Logistics Base consists of three areas: Yermo Annex, Nebo Main Base, and the Rifle Range. Operations that contributed to contamination are vehicle maintenance, repair and maintenance of weapons and missile systems, and storage of petroleum and chemical products. The installation was placed on the National Priorities List (NPL) after high concentrations of trichloroethene (TCE) were detected in groundwater monitoring wells.

Initial Assessment Studies and other investigations conducted between FY83 and FY90 identified 38 CERCLA sites and 2 underground storage tank (UST) sites. Site types include sludge-disposal areas, plating waste disposal areas, low-level radioactive waste storage areas, spill sites, and evaporation ponds. To facilitate cleanup efforts, in accordance with the Federal Facility Agreement (FFA), the sites were grouped into seven operable units (OUs). OUs 1 and 2 address groundwater contamination at Yermo Annex and Nebo Main Base, respectively. OUs 3, 4, 5, and 6 address contaminated soil at 36 sites. OU7 was established for new sites.

After an Action Memorandum was completed in FY89, the Navy installed an activated carbon groundwater treatment system to address volatile organic compounds (VOCs) in the Yermo drinking water system. In FY91, the installation formed a technical review committee, prepared the community relations plan, and established an information repository and administrative record.

During FY92, the installation removed 41 abandoned USTs from UST Area 1. In FY93, an Interim Remedial Action at OU2 provided potable water to nearby residents. A Treatability Study using a pilot-scale extraction well and an air-sparging system was completed at OU1 to determine the groundwater recovery rate needed to control off-base migration of the contaminant plume. The installation removed industrial waste sludge from the Oil Storage/Spillage and Industrial Wastewater Treatment Plant. The percolation ponds at Site 35 continue to be aerated, and a filter was installed to remove solvents from water before it is discharged into ponds.

In FY94, the installation excavated and disposed of contaminated soil from two sites. A pilot-scale groundwater treatment study was completed at a landfill site in OU3. During FY95, the installation conducted two pilot-scale studies at OU2, one for air sparging with vapor extraction and the other for a groundwater pump-and-treat system. Carbon filtration systems were installed in wells at private residences near Yermo Annex. The installation completed an investigation of UST Area 2 and conducted Remedial Investigation and Feasibility Study (RI/FS) activities at all 38 sites.

During FY96, the installation completed construction of the groundwater treatment system at OU1. EPA Region 9 initiated a RCRA Facility Assessment (RFA), and EPA completed the RFA for 61 sites. In FY97, the installation completed the RI/FSs for OUs 5 and 6, finished a remedial site evaluation and a Removal Action at Site 21, and completed corrective actions at UST Area 2. Ultraviolet ozone oxidation technology was implemented.

FY98 Restoration Progress

The installation completed the Records of Decision (RODs) for OUs 1, 2, 5, and 6, concluding the RODs for all sites in the original Installation Restoration Program. Sites discovered after the original program was established are being addressed under OU7. Investigations were completed at three USTs, under UST 2. In addition, the installation negotiated innovative shutoff criteria for the air-sparging/soil vapor extraction system at Site 26.

Plan of Action

- Complete Remedial Design (RD) of off-base extraction wells for OU1 in FY99
- Complete RD for Nebo South wells for OU2 in FY99
- Complete Remedial Action (RA) at Site 7 in FY99
- Complete RA at Site 23 in FY99
- Initiate extended RFA investigation of 15 RCRA/CERCLA sites in FY99
- Complete long-term operation of groundwater RAs at Yermo and Nebo in FY99
- Continue long-term monitoring of Yermo and Nebo systems in FY99
- Complete RA at Site 20 in FY99

FY99 Funding by Phase and Relative Risk